



# Spaceport News

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John F. Kennedy Space Center

## Space Summit enhances partnerships

The future of Florida's space program was charted at the recently held second Florida Space Summit gathering of elected officials, agency directors and industry leaders.

NASA Administrator Daniel Goldin and a number of Kennedy Space Center executives and managers attended the Summit on July 30, which was held at the University of Central Florida (UCF) Student Union Building at UCF's Orlando Campus, thanks to the hospitality of the university.

The summit was sponsored by Gov. Jeb Bush, U.S. Sen. Bob Graham, U.S. Sen. Bill Nelson and U.S. Rep. Dave Weldon. It included officials from NASA, Department of Defense, Federal Aviation Administration, Florida Legislature, Spaceport Florida Authority, Florida Space Research Institute, Florida Department of Transportation and other agencies.

The event was open to the public



Gov. Jeb Bush speaks at the Florida Space Summit. From left, U.S. Sen. Bob Graham; Florida Gov. Bush; U.S. Sen. Bill Nelson; Undersecretary of Defense for Acquisition, Technology, and Logistics Pete Aldridge; and Lt. Gov. Frank Brogan were among the group of elected officials, agency directors and industry leaders who spoke.

and included a discussion of common state and federal space interests, and the identification of priority space policy issues for federal/state collaboration.

At the opening of the Summit, Goldin said he visited Florida several years ago to express concern that the state was not fully supporting the space program, but

that the situation had markedly changed in recent years.

"I will say today that Florida is the most aggressive state in working with us and supporting the NASA program and I want to thank you for what you have done," Goldin said. "These are difficult economic times but with your supporting us, we've been able to do a fabulous job."

Goldin noted that 80 tons of payload have been launched successfully since the last summit and that NASA has had more Expendable Launch Vehicle launches during the past year than any other year.

"And we're most encouraged by your support for the transition of Kennedy Space Center from an operations center to cutting edge research and development that will allow us to move into the future," Goldin said.

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### Liftoff!

Spectators gather on the grounds in front of the bleachers at the turn basin to watch the launch of Space Shuttle Discovery Aug. 10. A breeze from the southeast that has the flags snapping also kept gathering clouds away for the liftoff at 5:10:14 p.m. EDT. Besides the Shuttle crew of four, Discovery carried the Expedition Three crew who will replace Expedition Two on the Space Station.

# Recognizing Our People

## Awards

### Silver Snoopy

**Defense Contract Management Agency:** Craig Bennett, Michael Smutek; **Dynacs Engineering Co.:** Kevin Cummings; **NASA:** Joseph Fasula, William Haase, Scott Huzar, James Jones, Priscilla Stanley, Todd Steinrock, Scott Thorne; **Space Gateway Support:** Richard Peters, David Hicks; **United Space Alliance:** Stephan Cisewski, Edgard Jarrell, Richard Maples, Albert Schricker

### STS-105 Honorees

**NASA:** Raoul Caimi, Catherine Deane, Gordon Grooms, A. Gross, Andrew Kelly, James Norman, John Poppert Jr., Timothy Pugh, Patti Skipper, Pamela Steel, Douglas Youngerm Kevin Zari; **Boeing Human Space Flight & Exploration:** Rodger Capps, Joan Carcciolo, Joel Davidson, Michael Gisondi, Julie Dodich, Jacqueline Grillion, James Jackson, Stevan Keeler, Jonathan Mesenbourg, Kevin Parmentier, Donna Waln; **Dynacs Engineering Co.:** Joseph Curran; **Dynamac Corp.:** Gregory Goins; **Space Gateway Support:** Julio DelCastillo, James Farmer, Ronald Funk, Lucille Nead, David Slade, Ronald Traylor; **Lockheed Martin Space Operations:** Brian Hooker; **Jostens:** Helen Draper; **United Space Alliance:** David Andrews, Shaun Green, Charles Hannas, William Hardy, Linda Huffman, Thomas Ingram, Naren Jadeja, Elizabeth Kline, Maurice Ledoux, John Meister, Eugene Olivier, Ella Schaefer, John Tabera, Richard Thawley, Carl Vita, Harvey Wilcox, Richard Worm, Carson Yates



Local veterans of the historic Bumper launches were honored with a reception at KSC NASA Headquarters. Pictured from left are Ed Belcher, JoAnn Morgan, Norris Gray, Roy Bridges, Dick Jones and Elizabeth Bain.

## Bumper veterans honored

A reception for veterans of the Bumper launches who participated in the Bumper History project was held Aug. 3.

The event was hosted at the fourth floor conference room in the Kennedy Space Center Headquarters Building by Center Director Roy Bridges and JoAnn Morgan, director of External Relations and

Business Development.

The four veterans who attended the reception participated in a project to document the first launches from the Cape 51 years ago. Those honored were Elizabeth Bain, who worked on the launch pad monitoring electromagnetic interference; Dick Jones, who set up the communications architecture

for the first launch; Ed Belcher, who installed power and communications systems; and Norris Gray, the first Fire Chief for the Cape.

They, along with several other Bumper veterans who could not attend the reception, were interviewed for the history project and provided documents and photographs related to the time period.



## August Employees of the Month

August 2001 Employees of the Month, from left to right, are Kennetta Campbell, TA; Robert Parks, UB; Patricia Ermerins, XA; Bob Page, MK; and Kathleen Poole, GG. Not shown are Henry Schwarz, PH; Tim Bulk, VA; and Angel Torres, YA.



## SUMMIT...

(Continued from Page 1)

Goldin applauded the State of Florida for its support of and contribution to the Space Experiment Research and Processing Laboratory (SERPL), which will combine life sciences experiment payload processing, postflight research and other life science research.

He said the laboratory will serve to draw university participation and young scientists and engineers to the Center.

In addition to SERPL, a number of other partnership initiatives have begun since the first Space Summit:

- Creation of the Spaceport Planning and Customer Service Office, a one-stop shop for Cape Canaveral Spaceport customers;
- Joint master planning for the spaceport, looking at development now and up through 50 years into the future;
- Creation of the Florida Space Research Institute, which promotes spaceport technology research and education;
- Institution of workforce training through the Advanced Learning Environment project and the Technician Training program; and
- Funding of spaceport technology research projects of academia and industry through the Joint Matching Grant Program.

"The space industry and Florida go hand-in-hand," Bush said. "It's only natural that we would sit down with all of our partners to map our future and to set common goals."

"The space industry is vital to Florida's economy. We're always looking for new ways to increase what already is a major investment in our country's space program."

John Douglas, president of Aerospace Industries Association, spoke in behalf of industry concerns.

A large number of representatives from industry attended the conference and contributed to the Space Summit with comments and questions.

Issues discussed at the Space Summit included the future impact of NASA programs on Florida's economy; how new military space programs will utilize Florida-based space capabilities; increasing competition in the commercial space transportation sector; how Florida can diversify and expand the space industry statewide; and the requirement for increased academic support for space-related research, technology development, and workforce training in the state.

"The possibilities for space research and exploration are as seemingly endless as the universe," said Graham, Florida's senior senator in Washington. "By working together, we can ensure that we remain on the right track and continue our nation's leadership into this new century."



### President of Angola tours KSC

At left, Deputy Director Jim Jennings (left) presents memorabilia to Jose Eduardo dos Santos, president of the republic of Angola. Above, the president (second from left); his wife, Ana Paula; and his delegation tour the SSPF.



### Delaney visits

The Undersecretary of the Air Force, Dr. Lawrence Delaney, and his wife, Angie (left), meet Center Director Roy Bridges while they tour the Orbiter Processing Facility.



# Inside the Main

Rocketdyne Propulsion and Power, a division of The Boeing Co., has retained a dedicated cadre of highly experienced Space Shuttle Main Engine personnel at Kennedy Space Center since the early days of the program.

Many who now support at the Space Shuttle Main Engine Processing Facility (SSMEPF), also known as the Main Engine Shop, began their careers at other Rocketdyne locations in Canoga Park, Calif., or Stennis, Miss.

This multi-center experience base allows the Space Shuttle Main Engine team to speak with one voice regarding engine design, test, and launch processing, and is valued by program managers, astronauts and others in the Shuttle program.

"We provide the full-touch labor as well as all engineering and quality functions for the engines at the launch pads, the Shuttle Landing Facility and the SSMEPF. Most of the processing is done in the SSMEPF," said Dan Hausman, Rocketdyne's Launch Site Director.

The SSMEPF is a specially designed 35,000-square-foot shop area attached to Orbiter Process Facility High Bay 3.

"There has never been another rocket engine designed as complex or efficient as the Main Engine. Like the rest of the Shuttle, it was built to be reusable, which makes it very different from our expendable launch vehicle rocket engines," said Hausman.

Each Main Engine's vital signs are measured 50 times per second during ascent.

The engines are extremely powerful. The energy released by the engines during ascent is equivalent to the output of 23 Hoover Dams.

They are designed to operate at

greater temperature extremes than any mechanical system in common use today, from - 423 degrees Fahrenheit to 6,000 degrees F.

"The engine's by-product is simply supersonic steam," Hausman said.

Each of the three Main Engines used for each Shuttle launch is composed of 50,000 parts.

About 7,000 of those parts are tracked for periodic replacement. Other parts are replaced as needed.

Currently the Shuttle Program works with a stable of 12 engines.

The new Block II Main Engine, which first flew on STS-104, has just as many parts as the previous version, but should require less processing time because of a redesigned high-pressure fuel turbo pump technology.

The Main Engine team operates under a subcontract to United Space Alliance's Shuttle Processing Contract.

"We work side by side with USA's launch team," Hausman said. "It's truly a team effort to get a Shuttle launched.

"We could not get our job done without their close coordination and support."

The 90-member KSC Main Engine group also must work closely with its sister Rocketdyne Propulsion and Power (RPP) Main Engine program sites, Marshall Space Flight Center, RPP Canoga Park for design and manufacturing support, and the engine test team at Stennis Space Center.

Over the years, Rocketdyne has provided engines for nearly every major launch vehicle in America's inventory and continues to design and manufacture engines for expendable launch vehicles and new generation vehicles.

"We're part of a proud heritage," Hausman said.

At right, Tom Hacker and Jeff Daignault perform pre-shipment inspection on Main Engine 2048, which is being sent to Stennis Test Center for testing.



Dana Michaud (above) installs Thermal Protection System material on a Main Engine nozzle being readied for STS-109 engine installation.



Lead Technician Bob Petrie drives the horizontal engine installer from OPF back to the Space Shuttle Main Engine Processing Facility with an engine that flew on



# Engine Shop



Jeff Dagnault (left) and Dana Michaud (right) perform pre-installation inspection on a Main Engine.



Ed O'Shaughnessy (left), Howard Stewart, Gil Ravago and Jeff Huie review procedure prior to beginning avionics check-outs on a Main Engine being readied for STS-109.



ay 2 back to  
n STS-104.



William Templet operates the Pneumatic panel that supplies pressure for Main Engine system leak checks.



Gerry Braham conducts post-flight nozzle inspection on a Main Engine.



# Lean Team improves cargo workflow

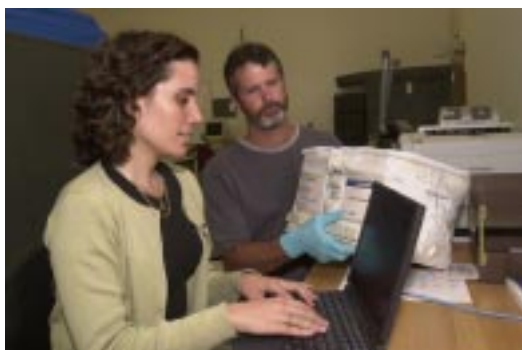
Coming off its recent payload processing workflow improvements at the Receiving Warehouse, the Kennedy Space Center "Lean Team" was asked to focus its next project in the cargo processing area.

Before cargo such as supplies, equipment, food and clothing are packed into Space Shuttle flight racks, it has to be checked, weighed and labeled by personnel in the Space Station Processing Facility cargo processing area.

Before the Lean Team's Accelerated Improvement Workshop (AIW) project was finished, the team had initiated improvements and changes in workflow that will ultimately reduce costs by more than an estimated \$200,000 per mission, said Scott Shearer who co-managed the efforts with Doug Gray.

Both Shearer and Gray are certified AIW leaders for Florida operations of The Boeing Co. at Kennedy Space Center.

This particular project was unique because it



Doug Smith, technician, and Maria Romero, engineer, both with The Boeing Co., use a new Lean Team process to prepare special labels for cargo that will fly on a Space Shuttle mission.

was the first time that one-half of the team's members were NASA employees from KSC and Johnson Space Center.

Boeing employees representing all the functional areas involved in cargo processing

were also on the team.

Other contractors, including United Space Alliance, were represented as well.

"The team stepped up to the challenge," Gray said. "When you get all the right people together, dedicate and empower them to make decisions, by the end of the week everyone could see what a difference they made in a short time."

Some of the changes were as minor as moving equipment such as fax and copy machines to more accessible areas, saving employees' steps and time.

Other changes involved more complicated processes.

Before the Lean Team initiative, corrected cargo labels would generally take three to five days to complete.

After the team completed its AIW, the process is now performed locally, is computerized and takes less than 30 minutes.

# Toastmasters host speakers workshop

Members and prospective members of Kennedy Space Center Toastmasters Club 3695 attended an evaluation and mentoring workshop by Gayle Watzel July 18 at the Headquarters Building fourth floor conference room.

The morning program began with a welcome by James Jennings, Deputy Directory of KSC and sponsor of the KSC chapter that formed in 1998.

Prior to the start of the workshop, a speech from guest speaker Evelyn Peyton, entitled "Hot Flashes," was presented to the group for evaluation.

Peyton is one of nine finalists in the "World Championship of Public Speaking," and will participate in the International Speech Contest in Anaheim, Calif., Aug. 25. She is a member of the Walt Disney World chapter of Toastmasters.

The workshop leader, Distinguished Toastmaster Watzel, is a member of two Orlando Toastmaster Clubs. Her workshop presentation to more than 40 persons focused on encouraging seasoned Toastmaster Club members to serve as mentors to newer members.

Mentoring is a way to help others gain confidence and become better speakers.

According to Watzel, mentoring



Guest speaker Evelyn Peyton shares her award-winning speaking talent with KSC Toastmasters.

to newer members is a key part of growth and stability for the Toastmasters organization.

Leadership from others can help newer members shed their fear of public speaking, help improve their language skills and help them mature during the process. In turn, these newer members can then give back to the organization by becoming mentors themselves.

The second part of the workshop covered the art of evaluation.

Watzel stressed the need for making constructive suggestions for improvement versus criticisms. She explained the process of evaluating speeches presented during Toastmaster meetings.

Methods for self-evaluation were

also covered and according to Watzel, are considered to be an effective tool for personal growth in the Toastmasters organization.

Watzel has been a member of the Toastmasters organization for nine years and has held many club-level positions. She is a professional speaker for companies and organizations in Florida.

Her past accomplishments include winning evaluation contests at both club and area levels, serving as District 47 chair for distinguished club programs, and earning two Advanced Toastmaster Silver Awards.

KSC Toastmaster Club 3695 of Toastmasters International was originally chartered in 1981 and has

grown from seven members to more than 40 members.

The vision statement of the local club is "to enhance leadership, communication, and presentation skills, as well as improve critical thinking, self-motivation and management potential."

Toastmasters International (TI) is a worldwide organization devoted to improving its members' ability to speak in public, listen critically and lead more effectively.

The program involves active participation and uses the "learn-by-doing" methodology.

KSC Toastmasters Club 3695 meets weekly on Wednesdays from 11:15 a.m. to 12:30 p.m. in Headquarters, room 2201.

# Customer forum looks at services

## SGS operating with smaller staff

The first of a series of customer forum briefings sponsored by the Joint Performance Management Office (JPMO) and Space Gateway Support (SGS) was held on Aug. 1.

The briefing was scheduled to inform employees of the services offered through the Joint Base Operations and Support Contract (J-BOSC), and services that will be reduced as a result of budget cuts.

Ray Lugo, acting executive director of the JPMO, kicked off the meeting by giving a brief history of J-BOSC.

KSC and the 45<sup>th</sup> Space Wing joined to consolidate base support services resulting in the J-BOSC contract, which was awarded to SGS in 1998.

Lugo also discussed the benefits of the contract, which include one-stop shopping for base support and services, unified services for KSC and Cape Canaveral Air Force Station (CCAFA), and contractor to customer relationships.

"The vision of the future is a premiere spaceport, bridging the gap between NASA and the Air Force. The J-BOSC contract has played a major role in achieving this goal," said Lugo.

Mike Butchko, president of SGS, then spoke about the services provided by J-BOSC and the objectives of the contract.

SGS provides base support services to more than 24,000 customers at the Spaceport.

A range of services are provided by SGS, one of which is launch support.

"We may not launch, but they don't launch without us," said Butchko.

Other services provided by SGS include infrastructure operations and maintenance, engineering and technical services, emergency preparedness and protective services, occupational medicine, environmental services, supply, vehicle maintenance and grounds management.

Lugo then spoke about the



Ray Lugo, acting executive director of the Joint Performance Management Office, briefs employees on services offered through the Joint Base Operations and Support Contract. The briefing was one in a series scheduled to inform employees of services that will be reduced as a result of budget cuts.



*"We may not launch, but they don't launch without us."*

**Mike Butchko**  
President  
Space Gateway Support

recent reduction and elimination of some of the services provided by the J-BOSC.

Some of the services that were affected by the cuts include reduction in mail delivery service and closing of the Cape Occupational Health Facility.

"Everyone's budgets are

constrained," said Lugo. "We must work together to get the job done with the resources available."

The briefing concluded with an open forum question and answer session.

Additional briefings will be held on Aug. 23 and Aug. 28. All employees are invited to attend.

Briefing schedule:

- Aug. 23 at 1 p.m., KSC Training Auditorium
- Aug. 28 at 9:30 a.m., CCAFA Cafeteria

For more information on J-BOSC, visit the following Web sites: <http://jpmo-internal.ksc.nasa.gov> and <http://sgs.ksc.nasa.gov/>



## Remembering Our Heritage



### First Lunar Orbiter launch 35 years ago

The first Lunar Orbiter spacecraft was launched Aug. 10, 1966, aboard Atlas Agena 17 from Pad 13 at the Cape Canaveral Air Force Station.

Several days after launch, the orbiter was injected into an elliptical near-equatorial lunar orbit to photograph the Moon.

A second orbiter was launched in November the same year. The Lunar Orbiters and the Surveyors returned much important data on lunar characteristics that were invaluable to the first manned Moon landing three years later.

The Lunar Orbiter 1 spacecraft was designed primarily to photograph smooth areas of the lunar surface for selection and verification of safe landing sites for the Surveyor and Apollo missions.

It was also equipped to collect selenodetic, radiation intensity, and micrometeoroid impact data.

The first Lunar Orbiter acquired photographic data from Aug. 18 to 29, 1966. A total of 42 high-resolution and 187 medium-resolution frames were taken and transmitted to Earth covering more than 5 million square kilometers of the Moon's surface.

The orbiter also took the first two views of the Earth ever photographed from the distance of the Moon. Orbit tracking showed a slight "pear-shape" to the Moon based on the gravity field and no micrometeorite impacts were detected.

The spacecraft was tracked until it impacted the lunar surface on command on Oct. 29, 1966, on its 577th orbit.

## Galileo flies by Jupiter's Io

NASA's Galileo spacecraft successfully completed a flyby of Jupiter's moon Io on Aug. 6, skimming about 124 miles above the surface of the highly volcanic moon.

Galileo's route went directly over a volcano named Tvashtar, which had been spouting a tall plume of gases when last observed seven months ago.

Recorded data from the camera and Galileo's other instruments will be transmitted to Earth over the next two months. The flyby's polar

route was selected so Galileo could collect magnetic measurements that might indicate whether Io generates its own magnetic field, like the Earth, Jupiter and Jupiter's moon Ganymede.

That information could give scientists a better understanding of what goes on deep inside Io, the most volcanically dynamic world in the solar system.

Galileo was deployed from the Space Shuttle Atlantis six and a half hours after launch of Atlantis on Oct. 18, 1989.



### Genesis off to capture the Sun

Smoke and steam rolls across Launch Complex 17-A, Cape Canaveral Air Force Station, as the Boeing Delta II rocket propels NASA's Genesis spacecraft above the launch tower and into the sky. The Genesis/Delta launch occurred on time on Aug. 8 at 12:13:40 p.m. EDT. Genesis is on a journey to collect and return to Earth just 10 to 20 micrograms of solar wind, invisible charged particles that flow outward from the Sun. The particles will be studied by scientists over the next century to search for answers to fundamental questions about the exact composition of our star and the birth of our solar system.



John F. Kennedy Space Center

## Spaceport News

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